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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* LIOR SHABTAY

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Appeal 2008-005961  
Application 09/718,143  
Technology Center 2400

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Decided: September 22, 2009

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Before JAMES D. THOMAS, JOHN A. JEFFERY, and CAROLYN D.  
THOMAS, *Administrative Patent Judges*.

J. THOMAS, *Administrative Patent Judge*.

DECISION ON APPEAL

## STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's twice rejection of claims 1-22, 28-35, and 37-41. The Examiner has objected to claims 23-27 and 36. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

### *Invention*

A method of accelerating the operation of a load balancer by an accelerator switch. The method includes receiving, by the accelerator switch, packets directed to the load balancer, determining, for at least some of the received packets, whether the packets match an entry of a list of packet groups, by comparing fewer than five parameters of the packets to respective fields of entries of the list, and forwarding, by the accelerator switch, at least some of the received packets, directly to their destination, responsive to the determining.  
(Abstract; Spec. 33; Figs. 1, 4-7.)

### *Representative Claim*

1. A method of accelerating the operation of a load balancer by an accelerator switch, comprising:
  - receiving, by the accelerator switch, packets directed to the load balancer, the load balancer being configured to operate in a first mode and a second mode, wherein the load balancer operating in the first mode changes at least one of a destination IP address and a destination port of one or more packets it forwards and the load balancer operating in the second mode changes at least a source IP address and a destination IP address of one or more packets it forwards;
  - determining, for at least one of the received packets, whether the packets match an entry of a list of packet groups, by comparing fewer than five packet parameters that are not changed by the load balancer to respective fields of entries of the list; and

forwarding, by the accelerator switch, at least one of the received packets, directly to its destination, responsive to the determining.

*Prior Art and Examiner's Rejections*

The Examiner relies on the following references as evidence of unpatentability:

Bernstein	6,157,644	Dec. 5, 2000 (filed Oct. 7, 1997)
Cohen	6,389,462 B1	May 14, 2002 (filed Dec. 16, 1998)

Dependent claim 6 stands rejected under the second paragraph of 35 U.S.C. § 112 as being indefinite. All claims on appeal, claims 1-22, 28-35, and 37-41 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the Examiner relies upon Bernstein in view of Cohen.

**CLAIM GROUPINGS**

Based upon Appellant's arguments set forth at pages 6-9 of the principal Brief, like Appellant, we consider independent claim 1 as representative of the subject matter of independent claims 1, 13, 28, and 37. Separate arguments presented as to certain dependent claims on appeal will be addressed in turn. For all other claims not discussed in this opinion, Appellant presents no arguments before us as to their subject matter. Therefore, they fall with our consideration of representative independent claim 1.

## ISSUES

1. Has Appellant shown that the Examiner erred in finding that the subject matter of claim 6 is indefinite under the second paragraph of 35 U.S.C. § 112?
2. Has Appellant shown that the Examiner erred in finding that the subject matter of representative independent claim 1 and respectively argued dependent claims would have been obvious to one of ordinary skill in the art within 35 U.S.C. § 103?

## FINDINGS OF FACT (“FF”)

1. The discussion of the background of the invention at Specification page 1 recognizes that load balancers and load balancing accelerators were known in the art with respect to the receipt and distribution of packets at websites. More specifically, Appellant recognizes, at Specification page 2, lines 4-13, the following:

Some load balancers, referred to herein as triangulation load balancers, change the destination MAC address and VLAN of the packets they forward, according to the load balancing decisions, but do not change the information in the IP header of the packets. Other load balancers change the destination IP address and/or port of packets which they forward to the servers, in a scheme referred to as half NAT (Network Address Translation) forwarding. These half NAT load balancers must intercept the packets from the servers to the clients in order to change the source address of these packets from the address of the servers to the address of the farm, i.e., the Internet site. Other load balancers change both the source and destination IP addresses of packets which they forward to the servers. These load balancers are referred to as full NAT balancers.

## PRINCIPLES OF LAW

### *Obviousness*

"[T]he PTO gives claims their 'broadest reasonable interpretation.'" *In re Bigio*, 381 F.3d 1320, 1324 (Fed. Cir. 2004) (quoting *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000)). "Moreover, limitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989)). Our reviewing court has repeatedly warned against confining the claims to specific embodiments described in the specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc).

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Section 103 forbids issuance of a patent when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."

*KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

The Supreme Court emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art," and discussed circumstances in which a patent might be determined to be obvious. *Id.* at 415 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966)). The Court reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 416.

The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.* at 415, 417.

We must determine whether or not the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *See id.* at 407. Obviousness determination is not the result of a rigid formula, and we will consider the facts of a case and the common sense of those skilled in the art. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) (citation omitted). That is, the test for obviousness is rather what the combined teachings of the references would have suggested to those of ordinary skill in the art. *See In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

## ANALYSIS

### 1. Rejection under 35 U.S.C. § 112, second paragraph

The Examiner’s position at page 4 of the Answer indicates that the subject matter of dependent claim 6 is indefinite or otherwise not clear with respect to the subject matter recited in its parent independent claim 1. Page 6 of the principal Brief and the paragraph bridging pages 1 and 2 of the Reply Brief do not take issue with the merits of the Examiner’s position, but rather merely indicates that the Examiner failed to enter an amendment that would purportedly cure the noted defect. As indicated at the top of the page 6 of the Appeal Brief, Appellant appears to agree with the Examiner’s

views. In view of this situation, we affirm the Examiner's rejection of dependent claim 6 under the second paragraph of 35 U.S.C. § 112.

## 2. Obviousness

Based upon the evidence before us and the Examiner's reasoning of combinability of Bernstein and Cohen, in view of the governing case law cited earlier in this opinion, we affirm that rejection under 35 U.S.C. § 103 as to most of the enumerated claims. We are persuaded by the Examiner's reasoning of combinability presented initially at pages 5 and 6 of the Answer in addition to the embellishing reasoning and teachings noted from the applied prior art at pages 16 and 17 of the Answer.

Thus, among the positions argued against obviousness at pages 6-8 of the principal Brief on appeal, the Examiner has addressed the first point of argument that the combination of Bernstein and Cohen does not teach "fewer than five parameters" that are recited in the representative independent claim 1 on appeal. The Examiner directly addresses this feature at page 16 of the Answer, and the Reply Brief does not contest these findings of the Examiner.

The second position alleging lack of motivation to combine Bernstein and Cohen is governed by the more recent governing case law we have cited earlier in this opinion, which permits but does not expressly require a rationale of motivation to assess combinability of teachings of the applied prior art. In addition to the noted remarks by the Examiner arguing combinability in the statement of the rejection, page 16 of the Answer addresses them, in addition to the third allegation made by Appellant, that



the combination of Bernstein and Cohen would change the principle of operation of Bernstein. These are addressed at the page 17 of the Answer.

The Reply Brief does not contest the Examiner's reasoning of combinability in the positions set forth at page 2.

Page 17 of the Answer addresses the arguments that the combination of Bernstein and Cohen would change the principle of operation of Bernstein. The argument of Appellant is refined by alleging the inoperability or the resulting requirement of a major design change at page 2 of the Reply Brief. We regard these positions, particularly in light of the more persuasive reasoning advanced by the Examiner in the Answer, as an argument that 35 U.S.C. § 103 requires structural combinability of the structural elements of the two references. As our earlier-noted case law makes clear, this is not the case; it merely requires the combinability, from artisan's perspective, of the teachings of the respective references. The allegations of inoperativeness and major redesign appear to be mainly argumentative and based upon conjecture. Particularly in light of Appellant's recognition of prior art load balancing functionalities we noted in FF 1, the combined teachings, in further light of what is actually argued and claimed, result from predictable uses of prior art elements according to their established functions.

We now turn to the subject matter of dependent claims 6, 7, 9, and 20-22. These arguments begin at the bottom of the page 8 of the principal Brief on appeal. Appellant reproduces at the top of page 9, the Examiner's basic position set forth in the last Office Action before appeal making general reference to the recitation of ports and lack of destination address features among claims 6, 7, and 9 on appeal. The rationale of the Examiner is based

upon personal preferences of the system's designer for a given application of use. These positions have been modified by the Examiner's slight change of reasoning at pages 7 and 8 of the Answer in the statement of rejection of these claims as well as at page 18 of the Answer. (The Examiner duly noted these additional reasoning at the bottom of page 14 of the Answer that are not contested in the Reply Brief.)

The rejection of the noted claims is not separately addressed in the Reply Brief. Therefore, on its face we have considered the Examiner's positions as persuasive of unpatentability of these claims. The mere fact that the Examiner recognizes that the combination of teachings does not explicitly teach all the claimed limitations is not a true characterization of the actual rationale or reasoning process of the Examiner as expressed in the last Office Action that is expanded upon in the Answer. The Examiner's use of the system designer appears to be akin to the objective standard of the person of ordinary skill in the art. The nature of the type of data elements compared or changed or not changed or not included in a table are part of the admitted prior art anyway as noted by Appellant's recognition of the state of the art we reproduced in the FF 1. Therefore, we affirm the rejection of claims 6, 7, 9, and 20-22.

We turn next to the rejection of dependent claims 29-31 and 33-35, which appear to be summarily rejected by the Examiner at the bottom of page 12 in the Answer in accordance with the rationale used by the Examiner to reject dependent claims 6, 7, and 9 since they are alleged to recite similar subject matter. (Appellant has elected to let dependent claims 30 and 32 fall with independent claims 28 and 37 at page 9 of the principal Brief, which in turn rely for patentability upon the arguments with respect to

independent claim 1.) We do not agree with the Examiner's view that all of these claims recite similar or the same subject matter as in claims 6, 7 and 9. The Examiner's responsive arguments as to some of these claims at the bottom of page 18 of the Answer again fails to specifically distinguish the subject matter of these claims from those alleged to be similar and provides no citation from the applied prior art as to the subject matter recited in dependent claims 29, 31, and 33. Since the Examiner has presented to us essentially no evidence of unpatentability of these claims, we find the Examiner erred in rejecting them.

On the other hand, we treat separately the subject matter of dependent claims 34 and 35. Dependent claim 34 merely recites that certain entries of a table "can be configured" for use with different field sets. This quoted language relates to future actions that may never occur since they are not positively recited to be configured in the present tense sense. Based upon Appellant's admitted prior art from FF 1 and the teachings already noted by the Examiner generally in the statement of rejection, we find that a person of ordinary skill in the art would understand that tables "can be configured" for use with different field sets, to the extent claimed.

The particular features of dependent claim 35 relate to a plurality of sub-tables that may have entries with different field sets. Again, following our rationale as to claim 34, the artisan would have well considered these labels as arbitrary labels of data fields within a table. Even one column in a table may be considered a sub-table and a field set. These terms are subject to mere interpretation or characterization to the extent they are only generally recited. The arguments at page 3 of Reply Brief are in part

persuasive of patentability as to claims 29 and 33 as noted earlier, but are unpersuasive of patentability as to claims 34 and 35.

Lastly, we turn to the subject matter of dependent claim 38, the issue of which is similar to the subject matter recitation of dependent claim 34. This claim merely recites the forwarding unit is “capable of” performing a certain function called “splicing.” The Examiner addresses this limitation in the statement of rejection at page 14 of the Answer and, in response to the arguments in the Brief, at pages 18 and 19 of the Answer. Rather than defining the term as alleged by Appellant in the remarks at the pages 12 and 13 of principal Brief on appeal, the corrected Specification location at page 20, lines 8-11, as revealed at page 3 of the Reply Brief, buttresses the Examiner’s position because the concept of splicing per se appears to be known in the art. The page 20 location of the Specification characterizes a “full NAT mode (referred to as splicing)” as apparently some functionality known in the art, which is consistent with what Appellant argues in the closing sentence of page 13 of principal Brief. Therefore, we are persuaded that the combination of teachings of Bernstein and Cohen are “capable of” forming a splicing functionality to the extent broadly recited.

#### CONCLUSIONS OF LAW

1. Appellant has not shown that the Examiner erred in finding that the subject matter of dependent claim 6 is indefinite within the second paragraph of 35 U.S.C. § 112.
2. As to claims 1-22, 28, 30, 32, 34, 35, and 37-41, Appellant has not shown that the Examiner erred in finding that the combination of teachings of Bernstein and Cohen would have rendered obvious to one of ordinary skill in the art of subject matter of these claims. On the other hand, as to

dependent claims 29, 31, and 33, Appellant has shown that the Examiner has erred in rejecting these claims under 35 U.S.C. § 103.

### DECISION

The rejection of claim 6 under the second paragraph of 35 U.S.C. § 112 is affirmed. The rejection of claims 1-22, 28, 30, 32, 34, 35, and 37-41 under 35 U.S.C. § 103 is affirmed, but the rejection of claims 29, 31, and 33 under the same statutory basis is reversed. The decision of the Examiner rejecting all claims on appeal is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v).

### AFFIRMED-IN-PART

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